National Weather Service
Storm Data and Unusual Weather Phenomena

August 2000

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
WISCONSIN, Southeast									
Dodge County									
Juneau	**01**	**1725CST**			**0**	**0**	**2K**		**Thunderstorm Wind (G52)**
An isolated severe thunderstorm pulsed up over central Dodge County and moved east at 10 mph. Downburst winds toppled several large trees.									
Dane County									
Belleville	**05**	**1417CST**			**0**	**0**	**3K**		**Thunderstorm Wind (G56)**
Green County									
2 W Dayton to 6 ESE Dayton	**05**	**1420CST 1435CST**			**0**	**0**	**1.5M**	**300K**	**Thunderstorm Wind (G74)**
Rock County									
3 SW Evansville to 2.5 SE Avalon	**05**	**1435CST 1505CST**			**0**	**2**	**5M**	**1.3M**	**Thunderstorm Wind (G100)**
Rock County									
2 SW Evansville	**05**	**1443CST**	**0.1**	**20**	**0**	**0**	**5K**		**Tornado (F0)**
Narrative is incorporated in discussion of August 5th storms below.									
Rock County									
Janesville	**05**	**1500CST 1630CST**			**0**	**0**			**Urban/Sml Stream Fld**
Walworth County									
East Troy	**05**	**1530CST**			**0**	**0**	**2K**		**Thunderstorm Wind**
Racine County									
3 W Waterford	**05**	**1538CST**			**0**	**0**	**2K**		**Thunderstorm Wind**
Kenosha County									
3 SW Twin Lakes	**05**	**1550CST**			**0**	**0**	**1K**		**Thunderstorm Wind**
Milwaukee County									
Countywide	**05**	**1600CST 1800CST**			**0**	**0**			**Urban/Sml Stream Fld**

This summer's most powerful downburst wind event to affect south-central and southeast Wisconsin pummeled portions of Dane, Green, and Rock counties with damaging hurricane-force winds, large hail, and urban-flood rains. As the 35 mile long line of thunderstorms moved southeast through Dane, northern Green, and Rock Counties, it increased in strength, ultimately producing straight-line winds estimated up to 100 knots (115 mph), heavy rains at a rate of 1 to 3 inches per hour, and hail stones 1 inch in diameter. Due to downed power lines and poles, ultimately about 18,000 customers had electrical power disrupted for 1 to 2 days. Descriptions of weather-related events follow in a county-by-county breakdown.

Dane County:
Powerful thunderstorm winds, estimated at 56 knots (65 mph), toppled several large trees in and near the city of Belleville. There were no reports of injuries or deaths. Minor urban-type flooding was noted due to intense rain accompanying the storm

Green County:
The squall-line intensified as it clipped the northeast quarter of Green County. Based on inflicted damage, winds gusts were estimated to be 74 knots (85 mph). The worst-hit area extended from a subdivision west of the village of Dayton (Town of Exeter), east/southeast to the county line. About 50 homes sustained varying amounts of damage caused by felled trees, tree branches, or the wind outright. Damage to home siding and roofs was also noted. Hundreds of trees were toppled, about 2 dozen farm buildings were damaged or destroyed, several silos were damaged, and two semi-tractor trailers were overturned. Many power lines were either blown over or knocked down by tree debris.

Rock County:
This county bore the brunt of the storm as its straight-line winds intensified to an estimated 100 knots (115 mph). The macroburst damage path was 3 to 6 miles wide, extending from southwest of Evansville in the Town of Magnolia (Highway 59 and A) east/southeast through the city of Janesville to southeast of Avalon near Caver Roehl Park. A newspaper headline nicely stated the effects: Rain! Wind! Wow! The powerful winds leveled thousands of trees (some 200 years old); tore roofs off homes; businesses, and farm buildings; blew tops of silos off, flipped over vehicles; blew in windows; damaged or peeled off home siding; knocked over billboards and road signs; closed many roads due to debris, and flattened corn and soybean fields. Based on newspaper photographs and eyewitness accounts, maximum wind gusts were estimated to be in the 87 to 100 knots range (100 -115 mph). The worst of the damage appeared to be equivalent to that caused by tornado winds of about 115 mph, or at the bottom of the F2 category. Many people noted that the sky grew very dark as the storm blew in with a wall of white rain mixed with tree leaves and branches.

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WISCONSIN, Southeast

The city of Janesville was at ground zero, as a 3.7 square mile looked like a bomb had hit its downtown area and the near east and west sides. A roof was torn off one business, and bricks were pealed off another business. It took at least 2 weeks to remove the tree debris from city streets, sidewalks, and backyards. Dozens of vehicles were damaged by felled trees and branches. It is estimated that 400 to 500 city homes sustained some degree of damage (6 destroyed). Traxler and Bond Parks looked like disaster areas and were closed. About 50 electrical poles were snapped by tree debris or the winds. One person in the city was injured when a tree fell on their pickup truck. Just north of Janesville on Interstate-90, another person was injured when their SUV was flipped over by the winds. In addition, 5 semi-tractor trailers were overturned on I-90 in the same vicinity. A new sub-division 3 miles south of Janesville experienced extensive roof or siding damage due to the winds or tree debris. Several vehicles were damaged as well. Just to the south of the city, the wastewater treatment plant recorded 1.48 inches of rain as the storms moved through, resulting in urban flooding. There were other unofficial reports of 2 to 3 inches in the city area

The civil Town of Magnolia, in the western part of the county, was also hard hit by the macroburst, especially near and along Highway 59 and County Trunk Highway A. About 40 power poles in this Town were toppled by the winds or tree debris

A little further north on Croft Road, just southwest of Evansville, a local resident noted this sequence of events: the initial, powerful winds and blinding rains lasted for about 5 minutes and were followed by hailstones up to 1 inch in diameter. Then the rain and hail stopped. After a couple minutes he noticed across the road in a field a ground-based vortex pulling corn stalks up to about 200 feet above the ground, while above it at cloud base was a funnel cloud. This weak vortex then hit a barn and caused slight damage before dissipating. Shortly thereafter, another round of rain, and gusty, but much weaker winds occurred. Based on this resident's account, and their prior experiences with tornadoes while living in Texas, this vortex was classified as a tornado.

The macroburst continued to inflict wind damage to a point about 3 miles east/southeast of the Janesville city limits along Highway 14, at which point it weakened. However, the thunderstorms briefly intensified once again southeast of the village of Avalon near Carver Roehl Park. At this location, a barn's roof was lifted and dropped by powerful winds, resulting in a collapsed structure which trapped 40 steer. Fifteen of the steer died from injuries, and some of the hay bales were destroyed. Collectively across Rock County, about 4500 acres of corn and soybean crops were badly damaged or destroyed. Thirty-five farm buildings had minor damage, 8 had major damage, and 19 were destroyed by the winds.

Walworth County:
The remains of the squall-line generated downburst winds which leveled large trees in and near the city of East Troy.

Racine County:
The remains of the squall-line generated downburst winds which leveled large trees west of Waterford

Kenosha County:
The remains of the squall-line generated downburst winds which leveled large trees southwest of the village of Twin Lakes.

Milwaukee County:
The remains of the thunderstorms dumped rain amounts of 2.25 to 3.1 inches across Milwaukee County based on Ham reports. Moderate urban flooding resulted. A West Allis motorist was rescued from their stalled vehicle due to water depths of 1.5 to 3 feet in low spots on roads. Similar water depths on strees were noted elsewhere in the county, especially in the southern half. No damage was reported.

Synoptically, an upper level trough was moving across Wisconsin on August 5th, with a weak vorticity maxima over the southern part of the state moving east/southeast. The south winds of a low-level jet fed the storms as west-northwest flow at 18,000 feet intensified to 60 knots based on profiler data. Thunderstorm echo tops were 40 to 42,000 feet.

Green County									
5 SW Albany	**06**	**1305CST**			**0**	**0**	**2K**		**Thunderstorm Wind (G52)**
Green County									
3 N Brodhead	**06**	**1320CST**			**0**	**0**			**Hail (1.00)**
Rock County									
Orfordville to Janesville	**06**	**1330CST 1340CST**			**0**	**0**	**50K**		**Thunderstorm Wind**
Rock County									
Orfordville	**06**	**1346CST**			**0**	**0**			**Funnel Cloud**
Rock County									
Hanover	**06**	**1351CST**			**0**	**0**			**Funnel Cloud**

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm

WISCONSIN, Southeast

Walworth County

Fontana | **06** | **1425CST** | **0** | **0** | **2K** | **Thunderstorm Wind**

Scattered severe thunderstorms popped up over parts of south-central and southeast Wisconsin, resulting in scattered damage reports. Downburst winds gusting to around 60 mph leveled large trees in parts of Green, Rock, and Walworth counties. The tree debris brought down more power lines in Janesville (Rock Co.), causing the loss of electrical power to another 500 customers. This was on the heels of the major macroburst which raked Janesville the day before. The main cluster of thunderstorms which developed over Green County displayed supercell characteristics and had a hook echo/BWER/mesocyclone as it moved east into Rock County. Funnel clouds were noted over Orfordville and Hanover (Rock Co.), but no tornado spin ups were reported. Low-leve inflow into the storms was from the southwest/west. Synoptically, the storms developed ahead of a cold front found from eastern Iowa into southwestern Wisconsin. Air temperatures were in the lower to mid 80s with surface dewpoints in the lower to mid 70s. LI's were -5 to -8 and CAPES were 1500-2000.

Fond Du Lac County

3 NW North Fond Du L | **14** | **2350CST** | **0** | **0** | **1K** | **Thunderstorm Wind**

Fond Du Lac County

Mt Calvary | **15** | **0000CST** | **0** | **0** | **1K** | **Thunderstorm Wind**

Sheboygan County

3 W Greenbush | **15** | **0010CST** | **0** | **0** | **1K** | **Thunderstorm Wind**

Scattered thunderstorm wind damage was noted across parts of east-central Wisconsin during the overnight hours. Downburst winds knocked many large tree branches down, and in addition, blew over several flower boxes and pots in the Mt. Calvary area of northeast Fond du Lac county. The responsible cluster of thunderstorms developed over northeast Minnesota and moved southeast along and north of a warm front which extended from Wausau to Oshkosh in Wisconsin. Dewpoints were in the lower 70s south of the warm front.

Iowa County

Highland to Dodgeville | **17** | **0127CST 0150CST** | **0** | **0** | **15K** | **Thunderstorm Wind (G56)**

Lafayette County

2 SW Shullsburg | **17** | **0150CST** | **0** | **0** | **2K** | **Thunderstorm Wind**

Green County

Monroe to 5 E Dayton | **17** | **0215CST 0225CST** | **0** | **0** | **4K** | **Thunderstorm Wind**

A cluster of severe thunderstorms moved east/southeast across parts of south-central Wisconsin during the pre-dawn hours. Downburst winds gusting to 52 to 56 knots (60 to 65 mph) toppled large trees. Some of the tree debris pulled down a few power lines which resulted in the loss of electrical power to dozens of customers. In addition, highway signs in Dodgeville were blown down by the powerful winds. Synoptically, low pressure was over southwest Iowa with a warm front extending east to east-central Iowa. The responsible storms initially developed over northwest Iowa. Unstable, moist air with surface dewpoints in the lower to mid 70s was found south of the warm front. During the time of the downburst winds, surface temperatures over southwest and south-central Wisconsin were around 60!

Iowa County

Dodgeville | **19** | **1230CST** | **0** | **0** | **Funnel Cloud**

Rock County

Beloit | **19** | **1410CST** | **0** | **0** | **Funnel Cloud**

Funnel clouds were reported over a small part of south-central Wisconsin during the afternoon hours. They were apparently of the "cold-air funnel" variety, and associated with low-top convection.

WISCONSIN, Southeast

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
Fond Du Lac County									
Brandon	**22**	**1505CST 1510CST**			**0**	**0**	**15K**		**Thunderstorm Wind**
Fond Du Lac County									
Ripon	**22**	**1505CST 1700CST**			**0**	**0**	**50K**		**Flash Flood**
Fond Du Lac County									
Ripon	**22**	**1515CST**			**0**	**0**	**10K**		**Thunderstorm Wind (G56)**
Fond Du Lac County									
Fond Du Lac	**22**	**1520CST 1540CST**			**0**	**0**	**15K**		**Lightning**
Fond Du Lac County									
Ripon	**22**	**1520CST**			**0**	**0**	**15K**		**Lightning**
Fond Du Lac County									
Fond Du Lac	**22**	**1530CST 1535CST**			**0**	**0**	**5K**		**Thunderstorm Wind**
Sheboygan County									
3 N Elkhart Lake	**22**	**1550CST**			**0**	**0**	**2K**		**Thunderstorm Wind**
Fond Du Lac County									
Fond Du Lac	**22**	**1600CST 1800CST**			**0**	**0**			**Urban/Sml Stream Fld**
Sheboygan County									
Plymouth to Sheboygan Falls	**22**	**1600CST 1800CST**			**0**	**0**	**30K**		**Flash Flood**
Fond Du Lac County									
2 E Eden	**22**	**1601CST**			**0**	**0**			**Funnel Cloud**

A mesoscale convective system (MCS) moved east across southern Wisconsin and generated scattered severe downburst winds, flood-producing rains, and intense lightning strikes. The powerful winds leveled some trees in the Brandon area, with one tree falling on and damaging a vehicle. A separate wet microburst struck the city of Ripon (Fond du Lac Co.) with winds estimated to 56 knots (65 mph), resulting in some downed trees or tree limbs. In addition, unofficial heavy rains of 3.5 to 4.5 inches fell in about 1 to 1.5 hours in Ripon, resulting in flash flooding. Water depths quickly reached 1 to 3 feet in and around Ripon. Manhole covers popped and damaged a vehicle in the city, and a railroad bed was washed out by the flood waters. Several cars stalled in the deep water. The severe storms moved east through the Fond du Lac city area, where their winds pushed over more trees. Urban flooding affect much of the city due to the heavy rains. Some cars were pushed down a flooded road in the central part of the city where water depths were 1 to 2 feet. Several intense lightning strikes knocked power transformers out of service in and around the city of Fond du Lac. This resulted in the loss of electrical power to 3,833 customers. A funnel cloud was spotted east of Eden. The thunderstorms then moved east into Sheboygan County where flash flooding affected the Plymouth to Sheboygan Falls area. Water depths on roads in this area reached 1 to 3 feet, and gravel shoulder washouts were noted. Downburst winds pushed over some trees north of Elkhart Lake. Urban flooding was reported in the city of Sheboygan.

Synoptically, a low pressure was found over western Kansas with a warm front east through southern Iowa to central Illinois. A secondary surface trough extended northeast through Fond du Lac and Sheboygan counties. Aloft, a vorticity maxima moved across southern Minnesota through southern Wisconsin. Radar imagery clearly showed the embedded MCS to have Neddy-Eddy characteristics (counter-clockwise rotation). The comma-head portion of the MCS moved over Fond du Lac and Sheboygan counties, resulting in many echoes training over the same spot. South of the warm front one could find surface dewpoints in the 70 to 75 range.

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WISCONSIN, Southeast

WIZ056-062-067>068 **Sauk - Iowa - Lafayette - Green**

	22 23	2300CST 0800CST			0	0			Fog

WIZ046>047-057>059-063>065-069>070 **Marquette - Green Lake - Columbia - Dodge - Washington - Dane - Jefferson - Waukesha - Rock - Walworth**

	23	0000CST 0900CST			0	0			Fog

WIZ051>052-060-066-071>072 **Fond Du Lac - Sheboygan - Ozaukee - Milwaukee - Racine - Kenosha**

	23	0300CST 0700CST			0	0			Fog

The combination of weak high pressure, light winds, mostly clear skies, and leftover low level moisture allowed for the formation fo dense fog across south-central and southeast Wisconsin. As usual, it had rained across most of the area the day before. Visibilities lowered to 1/4 mile or less in most areas. Numerous vehicle accidents were noted in area newspaper. Several flights were delayed at both Madison's Truax Field and Milwaukee's Mitchell Field

WIZ051>052-059>060-066-071>072 **Fond Du Lac - Sheboygan - Washington - Ozaukee - Milwaukee - Racine - Kenosha**

	23 24	2100CST 0700CST			0	0			Fog

WIZ046>047-056>058-062>065-067>070 **Marquette - Green Lake - Sauk - Columbia - Dodge - Iowa - Dane - Jefferson - Waukesha - Lafayette - Green - Rock - Walworth**

	24	0000CST 0700CST			0	0			Fog

The combination of weak high pressure, light winds, mostly clear skies, and leftover low level moisture allowed for the formation fo dense fog across south-central and southeast Wisconsin. This was the 2nd consequitive overnighth period that had dense fog. Visibilities lowered to 1/4 mile or less in most areas. Numerous vehicle accidents were noted in area newspaper. Several flights were delayed at both Madison's Truax Field and Milwaukee's Mitchell Field.

Jefferson County									
2 S Lake Mills	**26**	**0800CST**			**0**	**0**		**2K**	**Thunderstorm Wind**
Jefferson County									
Johnson Creek to 3 NNW Johnson Creek	**26**	**0817CST 0820CST**			**0**	**0**		**4K**	**Thunderstorm Wind**
Waukesha County									
Wales	**26**	**0835CST**			**0**	**0**		**2K**	**Thunderstorm Wind**
Waukesha County									
Pewaukee	**26**	**0854CST**			**0**	**0**		**210K**	**Lightning**
Waukesha County									
Hartland	**26**	**0900CST**			**0**	**0**		**10K**	**Lightning**
Milwaukee County									
Countywide	**26**	**0910CST 0920CST**			**0**	**0**		**50K**	**Lightning**

Scattered severe storms with downburst winds gusting to around 52 knots (60 mph), resulting in large trees being pushed over or tree branches knocked down. The felled trees blocked a trailer park near Johnson Creek for several hours until cleanup crews could clear the debris. A lightning bolt started an attic fire in a Pewaukee home (Waukesha Co.). This fire would ultimately spread and cause considerable damage before being pt out. Rainfall amounts of 1.50 to 1.90 inches were reported within 1 to 3 hours in Wales and just south of Dousman (Waukesha Co.). However, no flooding was noted. Several lightning strikes in and around Milwaukee County knocked out some power transformers or other lines which resulted in the lose of power to about 10,000 customers. A common emergency communications line serving the cities of Delafield, Hartland, Chenequa, Pewaukee, Nashotah, Merten, Stone bank, and North Lake was struck by lightning and knocked out of service. Repair bills were about $10,000. Synoptically, a surface trough and an upper level short-wave moved southeast through Wisconsin, setting the stage for the cluster of storms to pass through.

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